WHAT IS CLAIMED IS:

1. A method for regenerating nerve tissue *in vivo* comprising:

(a) providing a device comprising

(i) a biodegradable conduit comprising at least two openings and a passage connecting said openings,

(ii) helper cells transformed with an expression cassette comprising a promoter, active in said cells, that directs the expression of a polynucleotide encoding a growth factor, wherein said cells are disposed within said passage,

and

(b) implanting said device in a subject such that each of said openings are adjacent to nerve tissues,

whereby said nerve tissues are stimulated to regenerate into said passage by said growth factor produced by said cells.

2. The method of claim 1, wherein said cells are fibroblast cells, stem cells, fat cells, Schwann cells, astrocytes, endothelial cells and *ex vivo* propagated nerve cells.

3. The method of claim 1, wherein said biodegradable conduit is comprised of PLGA or PLLA.

4. The method of claim 1, wherein the growth factor expression is inducible.

5. The method of claim 1, wherein said growth factor is Nerve Growth Factor (NGF), Fibroblast Growth Factor (FGF), Brain-Derived Neurotrophic Factor (BDNF), GDNF, VEGF, neurotrophin 3, or neurotrphin 4-5.

6. The method of claim 4, wherein inducible growth factor expression is driven by administration of Muristerone A, GS-E, or tetracycline.

7. The method of claim 6, wherein administration is intravenous, intrathecal, intracavitary and by catheter.

8. The method of claim 1, wherein said cells further comprise a cell kill gene that renders said cells susceptible to killing following administration of a substance.

9. The method of claim 8, wherein said cell kill gene is an enzyme and said substance is a prodrug.

10. The method of claim 9, wherein said cell kill gene comprises a promoter selected from the group consisting of CMV IE, SV40, HSV *tk*, RSV LTR, EF-1α and ubiquitin.

11. The method of claim 9, wherein said cell kill gene is thymidine kinase.

12. The method of claim 8, wherein said cell kill gene is a toxin and said substance is an activator of the transcription of said cell kill gene.

13. The method of claim 8, further comprising the step of administering said substance to said subject in an amount sufficient to kill said cells.

14. The method of claim 13, wherein administration is by is intravenous, intrathecal, intracavitary and by catheter.

15. The method of claim 1, wherein said promoter is selected from the group consisting of CMV IE, SV40, HSV *tk*, RSV LTR, EF-1α or ubiquitin.

16. The method of claim 1, wherein said expression construct further comprises a polyadenylation signal.

17. The method of claim 1, wherein said expression construct further comprises a selectable marker.

18. The method of claim 1, wherein said expression construct further comprises a screenable marker.

19. The method of claim 1, wherein said subject is a human.

20. The method of claim 6, wherein the induction is maintained for 24 hours.

21. The method of claim 6, wherein the induction is maintained for 48 hours.

22. The method of claim 6, wherein the induction is maintained for four days.

23. The method of claim 6, wherein the induction is maintained for seven days.

24. The method of claim 6, wherein the induction is maintained for ten days.

25. An implantable device comprising:

(a) a biodegradable conduit comprising at least two openings and a passage connecting said openings; and

(b) cells transformed with an expression cassette comprising a promoter, active in eukaryotic cells, that directs the expression of a polynucleotide encoding a growth factor, wherein said cells are disposed within said passage.

26. The device of claim 25, wherein said cells are fibroblast cells, stem cells, fat cells, Schwann cells, astrocytes, endothelial cells and *ex vivo* propagated nerve cells.

27. The device of claim 25, wherein said biodegradable conduit is comprised of PLGA or PLLA.

28. The device of claim 25, wherein the growth factor expression is inducible.

29. The device of claim 25, wherein the growth factor is Nerve Growth Factor (NGF), Fibroblast Growth Factor (FGF), Brain-Derived Neurotrophic Factor (BDNF), GDNF, VEGF, neurotrophin 3, or neurotrphin 4-5.

30. The device of claim 28, wherein inducible growth factor expression is driven by Muristerone A, GS-E, or tetracycline.

31. The device of claim 30, wherein administration is intravenous, intrathecal, intracavitary and by catheter.

32. The device of claim 25, wherein said cells further comprise a cell kill gene that renders said cells susceptible to killing following administration of a substance.

33. The device of claim 32, wherein said cell kill gene is an enzyme and said substance is a prodrug.

34. The device of claim 33, wherein said cell kill gene comprises a promoter selected from the group consisting of CMV IE, SV40, HSV *tk*, RSV LTR, EF-1α or ubiquitin.

35. The device of claim 33, wherein said cell kill gene is thymidine kinase.

36. The device of claim 32, wherein said cell kill gene is a toxin and said substance is an activator of the transcription of said cell kill gene.

37. The device of claim 25, wherein said expression construct further comprises a polyadenylation signal.

38. The device of claim 25, wherein said expression construct further comprises a selectable marker.

39. The device of claim 25, wherein said expression construct further comprises a screenable marker.

40. A kit comprising an implantable device comprising:

(a) a biodegradable conduit comprising at least two openings and a passage connecting said openings; and

(b) cells transformed with an expression cassette comprising a promoter, active in eukaryotic cells, that directs the expression of a polynucleotide encoding a growth factor, wherein said cells are disposed within said passage.

41. The kit of claim 40, wherein said promoter is inducible, and said kit further comprises an inducer of said promoter in a suitable container.

42. The kit of claim 40, wherein said cells further comprise a cell kill gene that renders said cells susceptible to killing following administration of a substance, and said kit further comprises said substance in a suitable container.

43. The kit of claim 40, wherein said cells are fibroblast cells, stem cells, fat cells, Schwann cells, astrocytes, endothelial cells and *ex vivo* propagated nerve cells.

44. The kit of claim 43, wherein said cells are fibroblast cells.

45. The kit of claim 44, wherein said fibroblast cells are dermal fibroblast cells.

46. The kit of claim 40, wherein said growth factor is Nerve Growth Factor (NGF), Fibroblast Growth Factor (FGF), Brain-Derived Neurotrophic Factor (BDNF), GDNF, VEGF, neurotrophin 3, or neurotrphin 4-5.